BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: November 21, 2018
LOCATION OF CONFERENCE: John O. Morton Building
ATTENDED BY:

NHDOT
Matt Urban
Sarah Large
Ron Crickard
Tim Boodey
James McMahon III
Rebecca Martin
Meli Dube
Chris Carucci
Julius Nemeth
Don Lyford
Bill Saffian
Tony King
Trent Zanes
Wendy Johnson
Marc Laurin
Jason Tremblay
Jon Hebert
Kevin Nyhan
Hans Weber
Ron Kleiner

ACOE
Mike Hicks

EPA
Mark Kern

NHDES
Gino Infascelli
Lori Sommer
Dale Keirstead

NHF&G
Carol Henderson
John Magee

NHB
Amy Lamb

The Nature Conservancy
Pete Steckler

Consultants/Public Participants
Christine Perron
Pete Walker
Lindsay Matras
Jason Hilton
Chris Fournier

PRESENTATIONS/ PROJECTS REVIEWED THIS MONTH: *(minutes on subsequent pages)*

(When viewing these minutes online, click on a project to zoom to the minutes for that project)

NOTES ON CONFERENCE:

Finalize August 15, 2018 and September 19, 2018 Meeting Minutes
Matt Urban indicated that several comment came in for August's minutes and only a few came in for September. The group did not object to finalizing the minutes. The August 15, 2018 and September 19, 2018 Natural Resource Agency meetings were finalized.

Berlin, #42385

- East Milan Road over Horne Brook
- I Beam-Concrete deck bridge 36' Span
- Drainage Basin 13.98 sq. miles
- Constructed 1932 Rebuilt/ deck replacement 2008. At the time of the deck replacement riprap was placed at all four corners for scour protection.
- NHB 18-3396 Species Present but not expected to be impacted

Proposed work: Replace riprap on the southern side of the structure (SE & SW wings) in kind where scoured away during the October 2017 storms caused erosion along bank. Plan to use a sandbag cofferdam to divert the water. Bridge Maintenance will key the stone into the channel.

Mitigation was discussed. Lori Sommer asked if humus and seed could be placed on the riprap. Tim Boodey proposed that Bridge Maintenance could place humus and seed on top of the riprap starting 10 feet from the structure (wing tip). The group agreed that no mitigation would be required.

Mike Hicks indicated that Horne Brook is designated for EFH and that coordination with the National Marine Fisheries Services (NOAA) is needed. Sarah Large advised that she would help with this coordination.

There will be no tree clearing.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Dixville, #42398

- NH 26 over Clear Stream
- Concrete Arch spans 15 ft
- Drainage Basin 10.32 sq. miles
- Constructed 1929 rebuilt 1970
- NHB 18-3487 Species Present but not expected to be impacted

Proposed work: Only temporary impacts are needed for access the bridge and for temporary staging in the stream to perform the repairs to the wingwalls and centerline joint.

Mike Hicks indicated that Clear Stream is designated for EFH and that coordination with the National Marine Fisheries Services (NOAA) is needed. Sarah Large advised that she would help with this coordination. There will be no tree clearing.

No mitigation is needed since all of the impacts are temporary.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Stratford, #41788

Jim McMahon provided an overview of the proposed project and described the existing crossing. The Nature Conservancy (TNC) had partnered with District 1 Engineer, Phil Beaulieu, on a project that included camera tracking of wildlife in a larger area in this part of the State. Through the wildlife camera trapping project conversations evolved about the subject crossing and TNC's Pete Steckler partnered with District 1 to secure a grant through the National Fish and Wildlife Foundation – New England Forests and Rivers Fund. TNC was interested in improving the crossing for wildlife and District 1 had determined that the crossing was structurally deficient.

*** Following the meeting Pete Steckler of TNC shared that 'this crossing was identified as the 7th highest priority crossing replacement in the district when we decided to partner on the project.

J. McMahon explained that the existing box culvert is concrete and was built in 1938. The existing culvert is 4 feet wide and 4.2 feet high and has a slope of approximately 19%. The outlet of the structure is perched more than 4 feet. The proposed structure would be 7 feet wide and 5 feet high with one foot of embedment. The new structure would include streambed simulation. J. McMahon explained that one of the goals of the design is to flatten the slope. The new structure would have a slope of around 6%. Upstream of the structure the channel is in a forested area and is around 4 feet wide. NHFG's John Magee completed some electrofishing at the site. Upstream of the structure, several young wild brook trout were found. Downstream of the structure there were a larger number of wild brook trout found.

J. McMahon described that downstream of the outlet a natural gas pipeline was installed. It appears that when it was installed the pipeline disturbed the channel of the stream. The stream channel appears to have formerly branched downstream of the outlet with one branch travelling adjacent to the roadway and a second branch traversing a wetland area. J. McMahon explained that as a result of the pipeline installation, the branch adjacent to the roadway appears to have been disconnected/disrupted. The channel through the wetland becomes undistinguishable. As part of the project, District 1 is proposing to reconnect the channel adjacent to the roadway. Some of the flow would be maintained in the branch that travels through the wetland.

Pete Steckler of The Nature Conservancy (TNC) explained that this crossing fits TNC's wildlife connectivity initiative. P. Steckler shared that he was surprised to see the amount of wildlife using the structure, including a blue heron, despite its perched condition. P. Steckler commented that TNC has learned that with 4 feet of headroom a structure can pass mammals as large as black bears.

Dale Keirstead from NH DES inquired if an open bottom structure had been considered. J. McMahon explained that the design was selected in consideration of the plan to complete construction with District forces. Also, there was concern about the footings potentially being undercut if an open bottom structure was selected. A closed bottom structure provides more structural stability.

J. McMahon described that the current thought is that the bottom of the box would be cast with baffles to hold the streambed materials within the structure. Matt Urban explained that because the stream is a Tier 2 stream and the proposed project is an improvement (replacement with a larger structure), the design is in compliance with 904.07.

Lori Sommer recommended monitoring after construction and that it be tracked through NHDOT's mitigation database*. P. Steckler shared that the project is partially funded by NFWF and TNC has requested that the project design includes a wing wall camera mount both upstream and downstream. TNC will be installing a camera once the construction is complete. John Magee from NHF&G commented that he could conduct some electrofishing after construction. However, he believes he would get more information by walking through the structure and photo-documenting the streambed conditions upstream, downstream and within the structure.

Carol Henderson inquired if the design considered other types of baffles or removable baffles. The group discussed concerns about temporary baffles and the feasibility of the structure retaining different sized media. J. Magee shared some information about a Nash Stream project that involved a larger stream and structure and digging quite deep to place very large stone through the structure- this structure is smaller. J. Magee inquired if there were modeled velocities for the new slope of the structure to determine what size stone could hold up to the movement. J. McMahon commented that he could look into this. J. Magee commented that there is a lot of small gravel and fine sediment that would likely fill in any spaces in the material.

The group also discussed potentially grouting stones in place in the structure. J. McMahon commented that there are limitations because he needs to select a design and construction method that would allow Route 3 to be open to traffic through construction. J. McMahon is planning to put together some specifications and send them to some manufacturers to inquire about available options.

L. Sommer inquired about manufactures that might pre-fabricate the structure with the simulated stream bank material. The group also discussed mounting a shelf to the inside of the box.

J. McMahon shared that he hopes to submit a wetland application in the spring with construction in the fall.

Mike Hicks inquired about tree clearing in the portion of the project area where a wetland permit will be needed. Rebecca Martin shared that the USF&WS is providing funding (through NFWF) and will be the lead federal agency. R. Martin sent an inquiry to USFWS regarding the appropriate historic review and about utilizing the 4(d) Project Submittal Process for Federal Agencies.

R. Martin shared some slides about the environmental review. She commented that StreamStats and the Aquatic Restoration Mapper both appear to depict the stream north of its actual location. According to StreamStats the drainage area of the stream is 224 acres. The project area appears to be adjacent to, but not within the 100 year floodplain.

Mark Kern inquired about the funding for the project. The group discussed that the DOT would be providing match with a small amount of match from TNC for the camera monitoring.

L. Sommer commented that this type of crossing would make a good ARM fund candidate.

Carol Henderson mentioned that the NHB report indicated no impacts anticipated for the project.

**Un-related to the project: L. Sommer asked NHDOT to present on NHDOT's mitigation database that Arlene Allen, NHDOT BOE, has been working on. NHDOT plans to set up a meeting external of the Natural Resource Agency meeting.*

This project has not been previously discussed at the Monthly Natural Resource Agency Coordination Meeting.

Gilford, #42249 (X-A004(796))
Meli Dube, NHDOT Bureau of Environment, introduced the proposed project which involves rehabilitation of three corrugated metal culverts carrying perennial streams in the Town of Gilford. These culverts are associated with the US Route 3 bypass and will be advertised concurrently with NHDOT project Gilford 41655 which involves rehabilitation of a culvert discussed at the August 2018 Natural Resource Agency Meeting. Chris Carucci, NHDOT Bureau of Highway Design, provided details about each culvert location:

1. Location 1 is 72" diameter x 190' long, crossing under US 3 Bypass 250' south of the bridge over NH 11. Classified as Tier 2, based on drainage area of 524 ac. StreamStats base map (stream network) was not accurate at this location, but overall boundary was reasonable. Lidar and field review showed an increase of 25 ac over StreamStats (a 5% increase). The existing pipe is set at a 0.5% slope and is covered by 24' of roadway fill.
2. Location 2 is 84" diameter x 206' long, crossing diagonally under NH 11A 200' east of the Bypass bridge. Classified as Tier 3, based on drainage area of 829 ac. StreamStats boundary was not accurate at this location due to a 48" pipe adding 125 ac into the watershed (StreamStats area was 704 ac). The existing pipe is set at a 0.9% slope and is covered by 12' of roadway fill.
3. Location 3 is 84" diameter x 220' long, crossing under the Bypass 150' south of the Bypass bridge over NH 11A. Classified as Tier 3, based on drainage area of 835 ac (6 ac larger than Location 2). The existing pipe is set at a 1.6% slope and is covered by 31' of roadway fill.

The existing culverts were constructed in 1964/1965 and have severely deteriorated inverts. All have mitered ends and existing stone protection at the inlets and outlets. The proposed rehabilitation strategy for all three pipes is installation of shotcrete invert lining. Replacement was not considered due to the large amount of fill over the pipes and the significant increase in impacts and cost associated with excavation and reconstruction of roadways. Shotcrete invert lining meets the needs of the project because the deterioration of the pipes is limited to the invert area and is the most cost effective and low-impact solution to stabilize the existing pipes.

Shotcrete repair involves:
1. Water diversion, in this case through a temporary pipe hung inside the culvert
2. Pressure grouting to fill voids outside the pipe and stop groundwater infiltration
3. Placing reinforcing steel over areas of missing invert to restore structural capacity.
4. Placing concrete through a pump and hose, about 4" thick, extending to about 6" above the rust line
5. Re-grading stone to meet the new elevation of the invert

The proposed concrete invert will not significantly affect capacity. All three culverts operate in outlet control due to the flat slopes and high roughness of the structural plate. Smoother concrete on the lower 1/3 of pipes will offset reduction in area from the 4" concrete lining.

Incidental work includes resetting existing stone fill at the inlet and outlet of each culvert and replacement of three failed slope drains in close proximity to the Location 2 and 3 access roads.
Impacts will not be calculated inside the existing pipes as these areas are previously disturbed and per guidance received at the August Natural Resource Agency Meeting for the Gilford 41655 project. All proposed wetland/stream impacts are temporary for access, water diversion and resetting stone at the inlets and outlets of the existing pipes.

Temporary impacts will be just under 3,000 sf in wetlands, about 2,200 sf of channel and 350 sf banks for a total of about 5,500 sf. Approximate impacts at each location:

Loc 1 Inlet	1250 sf wetland	1,100 sf channel	(65 LF)	
Loc 1 Outlet	860 sf wetland	240 sf channel	(25 LF)	
Loc 2 Inlet	110 sf wetland	360 sf channel	(30 LF)	
Loc 2 Outlet	0 sf wetland	200 sf channel	(20 LF)	
Loc 3 Inlet	200 sf wetland	210 sf channel	(20 LF)	
Loc 3 Outlet	520 sf wetland	110 sf channel	(20 LF)	350 sf Bank

Total Temp Channel 180 LF Total Temp Bank 56 LF Total Temp 236 LF

Carol Henderson, NH Fish and Game, inquired about timing of the work and indicated that spring work would be a concern for fish spawning. C. Carucci confirmed that the work would likely occur during summer during low flow conditions. C. Henderson asked if the Shotcrete installation would create a perch and M. Dube confirmed that the stone at the inlet and outlets will be re-graded to raise the elevation of the stream bed at the inlets and outlets slightly to match the 4" increase in pipe invert elevation. Dale Keirstead, NHDES Wetlands Bureau, noted that Lily Pond is a protected Prime Wetland located north of Location 1. M. Dube stated that the Department is aware of the proximity but that the proposed work will not impact Lily Pond. L. Sommer stated that since the work is minor and will be limited to previously disturbed areas, no mitigation is required for the project as proposed.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Hinsdale-Brattleboro, #12210C (A004(152))

Christine Perron introduced the project. This project consists of the construction of a new bridge to carry NH Route 119 over the Connecticut River, bypassing the two existing bridges. The new bridge will be approximately 1,800 feet in length and will be located just downstream of the existing bridges. The project now also includes improvements to a boat launch located about 5 miles downstream of the bridge site. The project was last discussed at the April 2018 meeting, at which preliminary impacts for the bridge were presented. The purpose of today's meeting is to discuss wetland impacts and mitigation for the bridge site as well as the boat launch prior to submitting the permit application.

Trent Zanes provided an overview of the boat launch. The proposed bridge project will close the existing bridges to motorized vehicles, which will eliminate access to the water access located on the island. To offset this closure, improvements will be constructed at an existing boat launch located off Prospect Street approximately 5 miles downstream of the bridge site. NHDOT has discussed the improvements with the Public Water Access Advisory Board. The site is currently town-owned, and the town recently constructed a larger parking area at the site. The proposed improvements will consist of creating 4 parking spaces and a turnaround area, improving the ramp to the river, and realigning the rail trail.

Lori Sommer asked what type of surface would be used at the boat launch. T. Zanes replied that the material has not yet been determined, but it may be crushed gravel or stone. It's also possible that part of it would be paved. There may be an opportunity to fit in a small stormwater treatment area to treat runoff from at least a portion of the site.

Dale Keirstead asked if any coordination has taken place with the operator of the dam located downstream to determine if there are any potential safety concerns associated with the proximity to the boat launch. Matt Urban commented that this is an existing boat launch that was previously permitted. *[*A point of*

clarification – there is an existing ramp into a wetland on the east side of a causeway at the boat launch site. The proposal is to create a new ramp into the Connecticut River at this location.] T. Zanes said that he spoke with someone regarding the low water elevation, and he was told that the company just filed a new FERC permit and they don't intend to go outside their new operating limit. Carol Henderson noted that the minimum flow for the operation of the dam was still under discussion as part of the FERC process. T. Zanes said that the low water level is 220' and there is 5' of water at the ramp, so concerns were not anticipated.

C. Henderson commented that NH Fish & Game recommends using precast concrete planks for the ramp, with an anchor block at the top for ice. T. Zanes confirmed that this was proposed.

C. Henderson asked who would be maintaining the boat launch. T. Zanes said that it is currently owned by the town and the intent would be for the town to continue maintaining it. C. Henderson said that it would be more appropriate for NH Fish & Game to secure a maintenance agreement from the town in order for the access to remain open to the public. The exisiting boat ramp is heavily used and the NHFGD would not like the facility to be closed to residents of the town only. T. Zanes said that could be discussed.

C. Perron reviewed proposed impacts that would result from the boat launch improvements.

Permanent Impacts
Forested wetland: 4,536 sq ft
River channel: 424 sq ft (12 linear ft)
River bank: 729 sq ft (91 linear ft)
Intermittent stream: 264 sq ft (134 linear ft)

Temporary Impacts
River channel: 467 sq ft (10 linear ft)

C. Henderson stated that riprap is typically used to stabilize the Department's boat ramp designs and should be included in the total impacts. To ensure everyone was clear, C. Perron noted that impacts from riprap were not included in the impact totals, and adding riprap would increase the permanent impacts to the river.

C. Perron then reviewed the draft wetland impact plans and summarized impacts. Temporary impacts would be required for a temporary construction trestle that would be launched from the NH bank and located along the upstream side of the new bridge. Fingers off the trestle would be needed at each pier. The trestle would be supported by piles and would not require any temporary fill. Five bridge piers would result in permanent impacts to the river, NH bank, and the wetland on the island. The overall footprint of the trestle is shown as a temporary impact; however, the actual impact will be from each individual pile, which will be approximately 765 sq ft. An area of permanent bank impact would be required for the proposed pipe that will outlet the stormwater treatment area in NH. The new roadway slope will also result in an area of permanent wetland impact along the east side of the marina driveway.

Permanent Impacts
Wetland: 1,659 sq ft
Channel: 6,563 sq ft (209 linear ft)
Bank: 633 sq ft (57 linear ft)

Temporary Impacts
Wetland: 13,020 sq ft

Channel: 69,498 sq ft (115 linear ft)
Bank: 1,529 sq ft (62 linear ft)

Impacts on the Vermont side of the river will consist of 2,500 sq ft of temporary impact for access for drainage work.

The cumulative permanent impacts for the overall project (bridge and boat launch) at this time consist of:
Wetland: 6,195 sq ft.
River channel and bank: 8,349 sq ft (369 linear feet)
Intermittent stream: 264 sq ft (134 linear feet)
Total permanent and temporary impacts: 2.3 acres

C. Perron noted that the project exceeds the linear mitigation threshold for impacts to the river. L. Sommer confirmed that permanent wetland impacts would also require mitigation since the threshold for mitigation was met for the project.

L. Sommer asked what the deck of the trestle would be. Bill Saffian replied that the trestle would have 14"x14" steel H-piles with pier caps. The decking material would be up to the Contractor. Amy Lamb asked how many piles would be required. The total number of piles is expected to be 560.

L. Sommer asked for input from the Federal agencies on the need to mitigate for temporary impacts. Mark Kern asked if any trees would be removed to construct the trestle. Photos were reviewed and it was determined that some scattered trees would need to be cleared but substantial tree clearing would not be necessary. M Kern stated that he did not consider the scattered tree removal to be a substantial impact and did not think mitigation for temporary impacts was warranted.

Based on the permanent impacts presented, the in-lieu fee for this project would be $148,646.86.

L. Sommer asked if the Conservation Commission was contacted for input on potential mitigation projects. C. Perron replied that Matt Urban sent an email to groups asking for input. The Connecticut River Joint Commissions responded with a short list of potential restoration sites but did not provide any details. Based on the project schedule and lack of detailed input, the NHDOT determined that an in-lieu fee was the preferred option for mitigation. L. Sommer commented that, for all projects, NHDOT needs to make more of an effort to reach out to Conservation Commissions to discuss mitigation options. For this project, she would like to see meeting minutes or correspondence that shows an effort to coordinate. She also noted that this project would have been a good candidate for the Stream Passage Improvement Program.

In addition to the NHDES Wetland Permit, the project would require a Shoreland Permit and several Vermont permits. Mike Hicks and Mike Adams (VT Corps office) have previously confirmed that the project could be authorized under the NH and VT General Permits.

Mike Hicks asked about sign-offs for other resource concerns. C. Perron said that Section 106 consultation was complete, a US Coast Guard Bridge Permit was not required, there are no dwarf wedgemussel concerns in this section of river, and the project fit within the FHWA Programmatic Consultation on northern long-eared bat.

The wetland permit application will be submitted in late December 2018. The project is currently scheduled to advertise in September 2019, with construction starting in early 2020.

State-listed plants were briefly discussed. McFarland Johnson completed a plant survey and identified populations of two species in the river, primarily along the western and southern shoreline of the island. A. Lamb asked if the trestle finger at Pier 4 could be relocated to avoid impacting the rare plant populations that are located between Pier 4 and the island. B. Saffian stated that the trestle finger could be moved to the west side of Pier 4. A. Lamb noted that there is a historical record of another species on the island that grows in sandy areas. She asked if it would be possible to review the area again prior to construction. Ron Crickard said that would be possible. A. Lamb asked if any vegetation was seen in the river in the vicinity of the boat launch. This question and any other outstanding questions regarding rare plants will be addressed at a follow up meeting with Amy Lamb.

This project has been previously discussed at the 1/22/1998, 5/20/2009, 11/15/2017, 2/21/2018, 4/18/2018 Monthly Natural Resource Agency Coordination Meetings.

Salem-Manchester, #13933A (A004(435))

P. Walker summarized the I-93 Contract A project, which proposes to widen the I-93 highway from three to four lanes south of Exit 1. Total wetland impacts will be less than 1,300 square feet and include impacts to Wetlands S-9 (drainage outlets), S-10 (a constructed ditch line), and M-13 (roadside drainage). P. Walker explained that the project design was modified following the July 2018 RAM to avoid impacts to the Harris Brook Tributary by eliminating a proposed stormwater BMP. Instead, the project design intends to use surplus pollutant loading credits in Policy Brook generated by previous stormwater BMPs constructed during Contracts D & E. Contract A would shift a small amount of stormwater from the Harris Brook Tributary watershed to the Policy Brook watershed. This shift in watershed area will not be significant given the overall large size of each watershed. There will be less than a 0.1% increase of flow to Policy Brook and a 0.3% reduction of flow to the Harris Brook Tributary.

P. Walker then reviewed proposed impacts within the protected shoreland of the Spicket River and Policy Brook. A total of 27 acres of protected shoreland is within the project limits. The majority of these impacts will be within the existing highway infrastructure. P. Walker described the proposed impervious area impacts within the natural woodland, and waterfront buffers of the protected shoreland. Tree removal will occur within the waterfront buffer due to the construction of a soundwall. Mitigation for this tree removal is still being discussed and will be developed under a separate remedial planting contract at the adjacent Haigh Avenue mitigation site.

Finally, P. Walker gave an update on NH Natural Heritage Bureau (NHNHB) and NH Fish and Game Department (NHF&G) coordination. The project impacts are not within areas where the listed plant species, nor the natural community, are likely to occur. No direct impacts will occur within the Spicket River/Policy Brook, therefore the vertebrate species identified on the NHNHB report are not anticipated to be impacted. Correspondence with Amy Lamb (NHNHB) and Melissa Doperalski (NHF&G) indicated no concerns based on the reduction of proposed impacts.

M. Hicks asked about potential cultural resource impacts. M. Hicks also asked if there are any historic districts near the project. P. Walker answered that there is an Armenian Settlement Historic District in Salem, but it is not impacted by the project. P. Walker also noted that a Section 106 Request for Project Review had been submitted to NHDHR for their review. NHDHR requested survey of the “Mac” Subdivision/Haigh Avenue area if these would be impacted by the project, but FHWA and NHDOT concluded there would be no impacts to these areas as all work is within the existing I-93 right-of way. L. Sommer asked if the pollutant loading information was reviewed by NHDES staff yet. W. Brooks confirmed that M. Hemmerlein had sent information to Gregg Comstock, but was unsure if a response was received from NHDES.

D. Keirstead asked if there would be wetland impacts near the northbound off-ramp of the Salem Rest Area. P. Walker explained that no wetlands within the vicinity of the Salem Rest Area will be impacted. Work planned within this area includes minor paving/striping. The SEIS included work around the Salem Rest Area, however this work has been removed from the project. Matt Urban noted that NHDOT is planning to perform maintenance work on the on- and off-ramps of the rest area's Policy Brook culverts, but that work is unrelated to Contract A.
P. Walker concluded the meeting noting that the draft wetlands permit application and shoreland permit application are under review by NHDOT and should be ready for submittal to NHDES soon.

This project has been previously discussed at the 7/18/2018 Monthly Natural Resource Agency Coordination Meeting.

Bennington, #29486 (X-A004(156))
Meli Dube (NHDOT Bureau of Environment) introduced the proposed project, which will rehabilitate or replace the existing concrete box bridge carrying South Bennington Road over Russell Brook in the Town of Bennington. The intent of review by the Natural Resource Agencies at this time is for initial feedback to help inform design decisions moving forward, including consultation with the public. Jason Tremblay (NHDOT Bureau of Bridge Design) explained that the existing bridge is on the State red list due to the poor condition of the deck, superstructure and substructure. The current structure measures 10' wide by 7' tall and was built in 1925 and widened in 1975 but has not received any other major repairs or reconstructions. J. Tremblay explained that rehabilitation is still being considered at this time due to the Section 106 consultation process, however, replacement is more likely due to the deteriorated condition of the bridge. At this time, the replacement options include a 22' wide 4 sided buried structure with simulated streambed material or a 22' wide open-bottomed structure built on either a spread footing or piles. Geotechnical information is being requested to determine what kind of foundation will be required if an open-bottomed structure is proposed. The Town will be consulted in the coming months regarding which option they prefer, as well as to gather input regarding traffic control to determine if the bridge can be closed and construction streamlined or if the bridge must remain open and therefore require temporary widening for either alternative.

M. Dube gave a summary of the environmental review up to this point. There are no conservation lands in the project area and the State National Flood Insurance Program Coordinator has confirmed that the work is located outside of regulatory floodways and that no further coordination is necessary. The NH Natural Heritage Bureau has been consulted and indicated that there are records of wood turtle in the area and the US Fish and Wildlife Service Information for Planning and Conservation tool was used to determine that the project area is located in the range of the northern long-eared bat. The project area is located within ¼ of the designated Contoocook River. The Contoocook River Local Advisory Committee has been contacted and indicated that their preference is a three sided structure with natural stream bottom.

Michael Hicks, US Army Corps of Engineers, asked if the proposed alternatives would impact wetland impacts. J. Tremblay replied that the alternatives will affect whether temporary widening is necessary to keep the bridge open or if it can be closed, the alternatives will affect the length of time the closure is in place. Potential temporary widening will increase the wetland impacts in the project area. Gino Infascelli, NHDES Wetlands Bureau, asked if the wetlands have been delineated and noted that the option to close the road is preferred as there are lots of wetlands surrounding the bridge. M. Dube explained that delineations were completed by a consultant in November 2013, a new delineation will be completed in the spring of 2019. Lori Sommer, NHDES Wetlands Bureau, asked if the crossing has been evaluated in SADES and Sarah Large, NHDOT Bureau of Environment, indicated that she does not believe it has. Carol Henderson,

NH Fish and Game, asked if the crossing had been evaluated for brook trout usage, M. Dube confirmed that it has not. L. Sommer asked if the existing crossing has a perch. J. Tremblay explained that the current crossing acts like an equalizer pipe and is frequently filled with water and does not have an existing perch. L. Sommer asked if the 22' width of both proposed alternative would allow room for a wildlife shelf and if not, requested that design proposals consider creating room for one moving forward. Amy Lamb, NH Natural Heritage Bureau, inquired if it is likely for wood turtle to use this habitat and C. Henderson responded that it is unlikely.

J. Tremblay explained that the next step is to present the proposed alternatives to the town to collected feedback on their preferences and then return to the Natural Resource Agencies with a proposed preferred alternatives and draft wetland impacts.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Danbury, #16303 (X-A001(230))

Jon Hebert provided an overview of the project to replace the Route 4 bridge over the Northern Rail Trail. He mentioned that the evaluation of at-grade or rehab alternatives were determined to not be viable options. The proposed action is to replace the existing bridge. US Route 4 will be realigned to the northwest to alleviate the sight issues with the intersection of Spear Hill Road and improve the geometry of the existing roadway. The project limits are about one-third of mile in length. The roadway will be designed for 50 mph and will consist of two 12 foot lanes with 5 foot shoulders added to increase safety of the crossing. Existing drainage will be maintained and DOT is evaluating treatment options to accommodate the additional 12,000 square feet of impervious pavement. Treatment measures will likely be through swales or a small detention pond. There are about 18,000 square feet of wetland impacts.

Marc Laurin described the adjacent wetland system that were delineated by Stoney Ridge Environmental. The impacts are to a Forested/Shrub-Scrub/Emergent system located along the existing rail trail. The main function and value of the wetlands are for sediment and toxin removal. The wetland impacts are proposed to be mitigated through an in-lieu fee payment to the ARM fund.

The project will likely have a hearing at the end of January 2019. The wetland permit application is anticipated to be submitted in May 2019. The advertising date for the project is June 2020.

Matt Urban inquired if the slopes could be pulled in tighter to reduce impacts to the delineated wetlands. Jon H. responded that the slopes are already at 1½ to 1 in those locations. Lori Sommer inquired if Danbury has a Conservation Commission, if they do, coordination with them on mitigation options must be made and documentation from conversation on mitigation must be provided. Marc L. stated that he would pursue coordination as needed (*a subsequent review of the Town's web site indicates that the Town has no Conservation Commission).*

Dale Keirstead asked about the historic nature of the bridge. Marc L. replied that the rail corridor is historic and the bridge contributes to the corridor. The project impacts to the historic resources have been reviewed with FHWA and DHR. A MOA will be developed to address the historic concerns and mitigation. A Section 4(f) Evaluation will be completed as part of the environmental documentation.

Amy Lamb stated that there are no hits on the NHB database for species or natural communities of concern.

This project has been previously discussed at the 11/19/2014 Monthly Natural Resource Agency Coordination Meeting.

Laconia, #40656

Chris Fournier (HEB Engineers, Inc.) provided an overview of the project which involves the replacement of a bridge on Court Street over Durkee Brook in Laconia, NH. The existing bridge, originally built in 1912, has a relatively short span (approximately 13 to 15 feet) with three lanes within the urban compact, and traffic of approximately 15,000 vehicles per day.

An Engineering Study has been submitted and approved by the City and NHDOT, presenting three alternatives for this project: (A) accelerated bridge construction with existing stone abutments to remain in place. The new bridge will "fly over the top" of existing abutments. The span will increase to a 30-foot superstructure, with no wetland impacts, and the project will be conducted within a two-week road closure. This is the preferred alternative; (B) a three-month phased construction, to remove existing structure and replace in-kind. The new structure would create a 15-foot span bridge and the project would involve wetland impacts. This alternative is not recommended due to the drawn-out construction duration; (C) a two-month, phased construction where existing stone abutments would remain. This option would replace the current structure with a longer, 30-foot span bridge and would avoid any wetland impacts. This option is not recommended due to the drawn out construction duration and the greater cost.

Alternative A is the preferred alternative, with an estimated project cost of $1,342,000. The project will utilize the NHDOT State Bridge Aid (SBA) Program with 80% reimbursement.

The project schedule was presented with the NHDOT final design submitted in April 2019, advertise for bids in May, select contractor in July and construction set to begin in the fall.

Lori Sommer (NHDES) asked if there was anything we could within the scope of the project to improve the direct discharge from the gas station to the brook. C. Fournier responded that the swale is located outside of the right-of-way, and he is unsure if the existing swale will be disturbed during construction, however he believed it was unlikely. Lori also asked if C. Fournier would be going back to the City with this, and if there is any future conversation that he might be able to direct toward this runoff. C. Fournier noted that he completely understands the concern, and he will address it with the petroleum reimbursement fund consultant. Since the City and the consultant are dealing with cleanup, that is be something they would handle.

Confirmation was requested on whether the bridge is a few hundred feet from Winnisquam Lake. C. Fournier confirmed that it is. It was further pointed out that Winnisquam has a pretty large population of smelt and trout. He is wondering if HEB has contacted Fish and Game about any concerns with the proposed work, as the water is a sandy bottom stream, which is prime breeding habitat for many species. C. Fournier stated that Fish and Game has not been contacted, as he believes they would not have an issue since the stream is not being touched. An NHB data check was conducted and a number issued (NHB19-3465).

Clarification was asked for regarding whether we are going to basically remove the exiting top and just replace that.

C. Fournier explained that here are two old stone abutments. The plan is to drive some pile back far behind, dig, install pile cap, and then go right over the top with the new bridge structure. There will be a small gap

between our new superstructure and the old substructure, but we will largely maintain the road profile as it exists now. The stone abutments may need to be slightly deconstructed to accommodate the new structure.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Haverhill, #41734

Chris Fournier (HEB Engineers, Inc.) provided an overview of the project which involves the replacement of Clark Pond Road Bridge over Clark Brook in Haverhill, NH. It is a two-lane, rural road, with a low volume of traffic, and is a culvert at this point. The road has been closed since the July 2017 storm.
C. Fournier explained that in 2012, the Town slip-lined it and made it a nine-foot non-bridge. It now has been sufficiently proven that it does need to be a bridge and it is currently in the State Bridge Aid Program, and FEMA funds have been acquired for this bridge replacement.

To give some background, C. Fournier noted that Blackmount Country Club Golf Course, in concert with US Fish & Wildlife Service and the Connecticut River Conservancy, is undergoing a dam removal project upstream of this crossing, and it is presently under construction. At this time, there are basically two outlets working at that dam. We are coordinating with that project, and recently received signed agreement to proceed with the Engineering Study.

C. Fournier noted that three alternatives are anticipated for consideration: (A) a hydraulic minimum crossing at the site, which would be a little less than the bank full width, which is estimated at 22 -24 feet; (B) a stream crossing compliant span of 31 feet; or (C) a simplified, long span that best matches the stream channel geometry. Alternate C, is intended to keep construction high and dry, however, we do anticipate this alternative would be too costly.

Current preliminary estimate for this project is $690,000, which was calculated immediately after the storm event and based on 20-foot span.

Ron Crickard (NHDOT) asked if there a chance federal funds could be received as part of this?
C. Fournier noted that at this time, $500,000 has been identified in FEMA funds. State Bridge Aid will pick up 80% of the remaining balance, leaving the Town with a small portion to fund the rest. However, even that will be picked up by a grant opportunity in conjunction with the Connecticut River Conservancy, so we are going to make great improvements at an extremely affordable price.

C. Fournier explained that the dam removal project upstream from this crossing has a phase 2, which would create tail water control to raise the water elevation through the culvert, because the culvert is perched at this point. This would allow for fish passage through the culvert. There were not enough funds to replace a crossing. Therefore, the Town is now jumping in on Country Club Golf Course project, eliminating their need for a phase 2 tail water control. We would be replacing the bridge with a better crossing.

C. Fournier indicated that since we have not started the study process, feedback is appreciated while considering the alternatives. We are very early on in this process, however, the Town is anxious to get the road open, as is the nearby golf course and auto repair shop. The project schedule was presented to first complete Engineering Study and preliminary designs, submit an expedited wetland permit in April (or

earlier if possible), final design to be completed in June, bidding in late summer and construction in the fall.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Canaan, #41399

Chris Fournier (HEB Engineers, Inc.) provided an overview of Potato Road Bridge in Canaan, NH. Potato Road has two very low lying flood plains on either side of the road and a rail corridor. Potato Road Bridge is very low, and is currently in very poor shape. Originally built in 1930, and rehabilitated in 1994, it is a two-lane bridge, constructed of steel springers, wood deck, and old stone abutments. The road historically floods over the top at least once annually. Due to the fact that surrounding roads used as a detour usually also flood at the same time, residents are left isolated unless they take a 50 minute detour. While there is not usually much damage to the road, it is a nuisance.

C. Fournier explained that several alternatives were evaluated to address this red listed bridge: (A) bridge rehabilitation to match the existing 49-foot span. Keep the substructures, with a superstructure replacement and substructure rehabilitation. This option attempts to keep the substructure in-kind, and not alter hydraulic capacity, serving more as a minimal-type project, with a cost of $535,000. The Town doesn't prefer this alternative because it fails to address the flooding issue, and has a shorter life span because the substructure remains; (B) a bridge replacement to lengthen the span with a stream crossing compliant length of 1.2 times bankfull plus two feet. This alternative only provides a minimal increase in hydraulic capacity, since it is a floodplain-type situation. This option involves a slight raising of the profile at the bridge location only, with minimal road construction. While there is a large increase in construction cost ($955,000), but it allows the Town to fully address the bridge aspect of flood mitigation and allow the roadway raising to occur later; (C) essentially the same as alternative B, but also includes raising 1,000 feet of road, and installing a new bridge in the floodplain to mitigate overtopping of the road ($1,776,000). If the Town is unable to afford all that is proposed in alternative C, alternative B would allow the Town to complete the second phase when it is financially feasible.

Alternative C is the preferred option for the Town. The Engineering Study has been submitted, and the current schedule as it stands is for fiscal year 2020, however this is timeframe is subject to the NHDOT State Bridge Aid programming.

An NHB Data Check was conducted, with no sensitive species found.

A question was raised about whether the assumption is that the flooding is generally due to the road being built across the floodplain, and that the road currently acts as a dam? Will this project address that?
C. Fournier explained that this project transforms the road into more of a dam. This would provide two properly sized outlets for the floodplain to drain into the other floodplain, rather than serving as a weir across the top of road as it exists currently.
The proposed schedule was presented to first approve the Engineering Study and proceed with preliminary design. Permit applications submissions will be in spring of 2019, followed by advertisement for bids in the fall, with construction taking place in spring of 2020.
This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Laconia, #26706

Chris Fournier (HEB Engineers, Inc.) provided an overview of the project which involves the replacement of the Academy Street Bridge over Durkee Brook in Laconia, NH. The structure is just upstream and is very similar to Court Street Bridge, however with a much lower volume of traffic, at approximately 1,500 vehicles/day. The bridge is 66 feet wide with a 13-foot span, there are two lanes with 17 feet of grass shoulder, a lane of parking, and ansidewalk that approaches the bridge.

C. Fournier explained that the existing bridge was built in 1930, and the substructure condition is serious, necessitating that it be addressed as soon as possible. Two alternatives were considered, both relatively similar to those for Court Street: (A) This option replaces the bridge in-kind, keeping the well-defined channel with wetland impacts. This alternative also keeps cost down, and narrows the bridge to remove the grassed area. This option keeps the parking area and adds a defined sidewalk. The City will be extending the sidewalk to provide some connectivity to the sidewalk further north, which will also help avoid cars parking in pedestrian pathways; (B) the "fly over the top" alternative, which eliminates the wetland impacts but adds an additional $110,000 in cost.

C. Fournier noted that due to the traffic volume and lower cost, the City prefers Alternative A. This project is in the State Bridge Aid Program for fiscal year 2022.

The question was raised if C. Fournier believed a shelf would be possible under the 15-foot span bridge.
C. Fournier noted that while he was unsure whether it would be possible, the channel shape is proposed to be similar to that up and downstream.
Another question was raised as to what tier stream it is, and does it comply with the rules? Furthermore, would Alternate B be compliant with the stream crossing rules, or would that also be an alternative design?
C. Fournier indicated this would not comply, so it would be an alternative design. Alternative B leaves the old stone abutments in place, effectively restricting the channel. The point would be to stay out of any wetland impacts through the channel, and would not need to comply with stream crossing rules.
A question arose on whether there would be wetland impacts to replace the abutments
C. Fournier answered yes for alternate A. It is a very short in span, so impact would be across the entire channel.

The Engineering Study is approved for the preferred alternative, however we have not yet begun design activities. Estimated construction would be for June 2021.
This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.